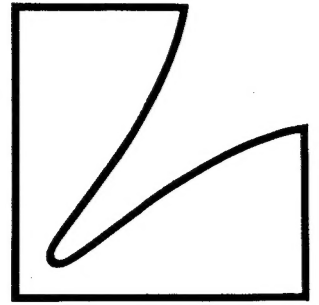
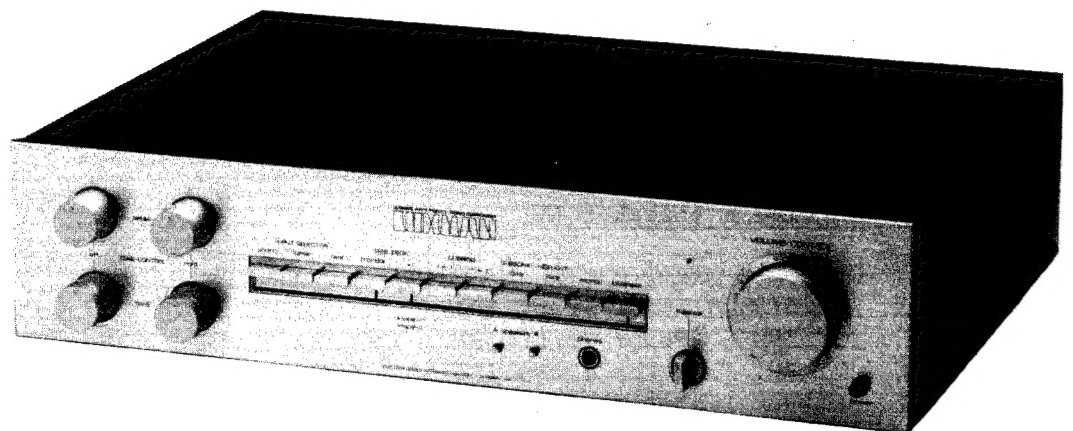


SERVICE MANUAL



SOLID STATE STEREO
INTEGRATED AMPLIFIER **L-4**



Idle Adjustment

- (1) Detach the fuses from the fuseholders (F401) fixed on PD1257.
- (2) Connect a DC amperemeter to each fuseholder (F401)
(Print terminal is positive.)
- (3) Adjust VR401 to obtain 50mA reading on the meter 1 minute after turning the Power Switch on. (This is for Lch.)
- (4) Same procedures from (1) to (3) should be taken on F501 of PB1258 against Rch.

DC Offset Adjustment

- (1) Measure to confirm at the speaker terminals or between R-out and L-out terminals and the ground that DC voltage is within the limit of $\pm 50\text{mV}$.

Replacement Parts ListExploded View

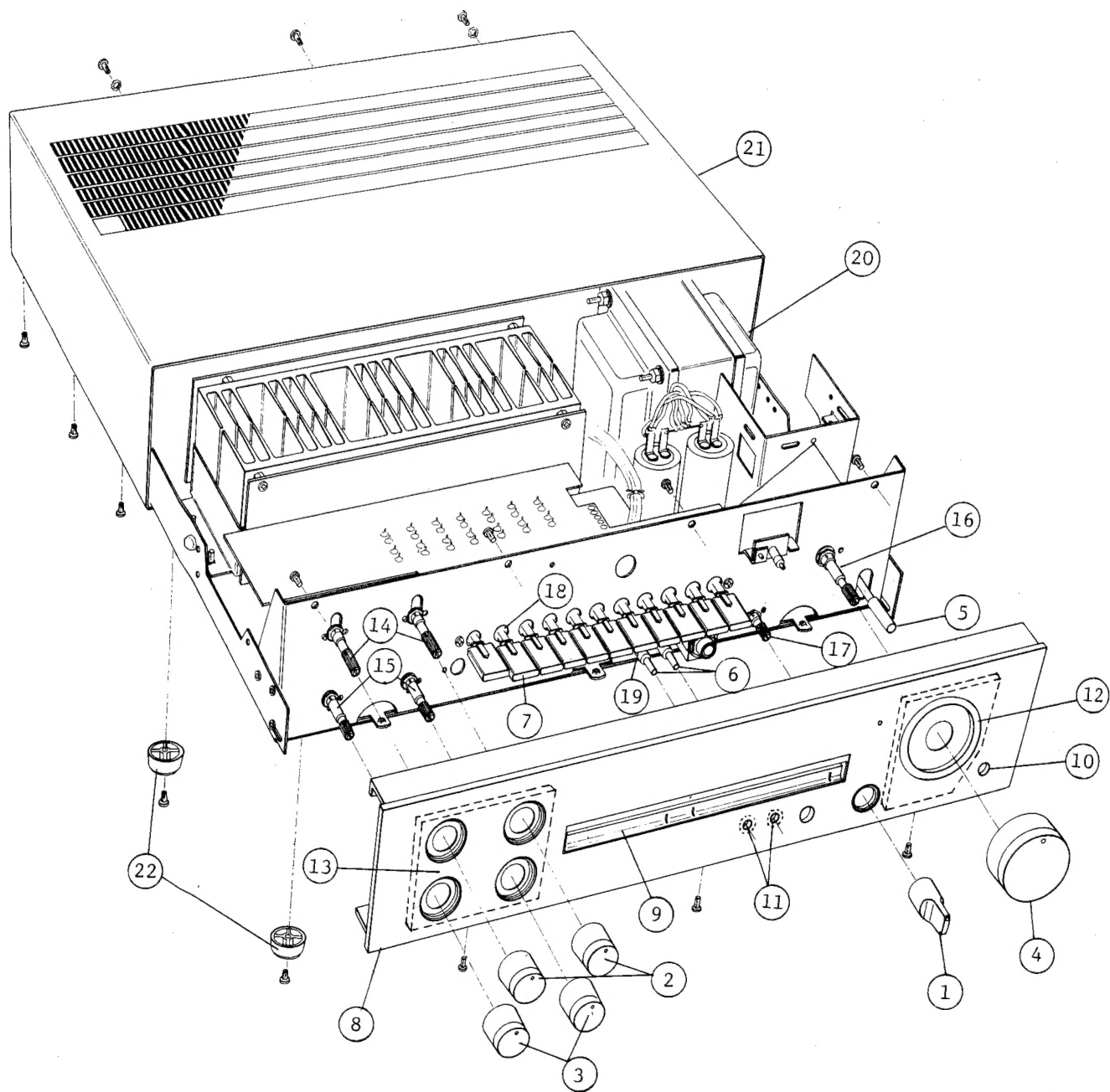
SYMBOL NO.	STOCK NO.	DESCRIPTION
(Knob)		
1	WH1079	Balance
2	WH1080	Treble
3	WH1080	Bass
4	WH1081	Main VR.
5	WJ1089	Power
6	WJ1106	Speaker
7	WJ1107	Select
(Front Panel Ass'y)		
8	WA1166	Front Panel
9	WD1089	Escutcheon
10	WE1066	Protector
11	WE1086	Protector
12	WL1062	Name Plate
13	WQ1017	Fiber
(Switch and Volume)		
14	RV0206	50K Treble VR
15	RV0207	100K Bass VR
16	RV0223	200K Main VR
17	RV0205	250K Balance VR
18	SP0106	Select SW
19	SP0107	Speaker SW
Chassis)		
20	PT2379	Power Trans (U)
	PT2380	Power Trans (S)
	PT2381	Power Trans (E)
21	UG1010	Bonnet (S,E)
	UG1021	Bonnet (U)
22	WN0007	Foot

Rear Panel Ass'y

STOCK NO.	DESCRIPTION
AC0002	DIN Connector
AT0080	SP Terminal
UC1133	Rear Panel (S)
UC1134	Rear Panel (E)
UC1135	Rear Panel (U)

Packing Material

STOCK NO.	DESCRIPTION
XA1208	Carton
XB1023	Pad
ME0122	Owner's Manual



Replacement Parts ListRemarks

Capacitors: C.....Ceramic, E.....Electrolytic, M.....Mylar, G.....G Capacitor
 S.....Styrol, T.....Tantalum, Mi.....Mica, MP.....MP Capacitor
 O.....Oil capacitor, TRIM.....Trimmer capacitor, AC.....AC Capacitor
 BP.....Electrolytic Bi-Polar type

Resistors: 10%, 5%, 1/4W, unless specified otherwise

Type: (S).....Model for north European countries
 (U).....Model for U.S.A. and CANADA
 (E).....Standard model
 (J).....Model for JAPAN

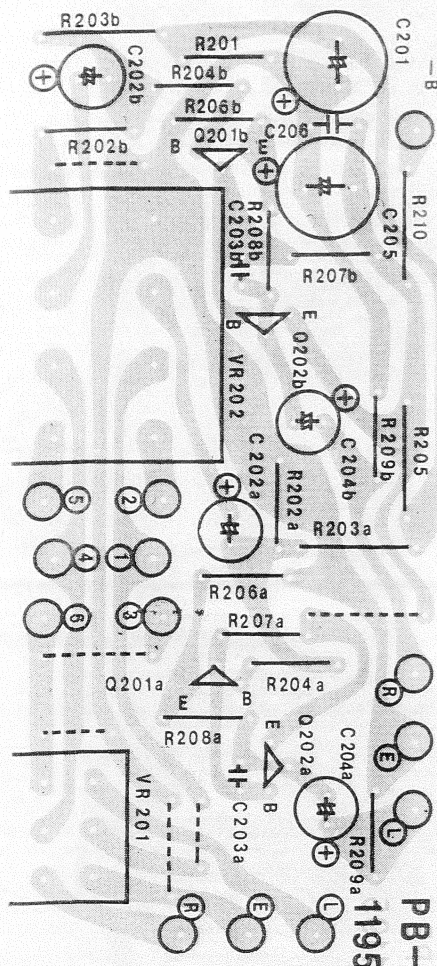
RB-1194B

SYMBOL NO.	STOCK NO.	DESCRIPTION	
R101ab	RB0224	56K	R-25
102ab	0246	470K	"
103	0210	15K	"
104ab	0254	1M	"
105ab	0182	1K	"
106ab	0234	150K	"
107ab	0174	470	"
108ab	0230	100K	"
109ab	0222	47K	"
110ab	0180	820	"
111ab	0184	1.2K	"
112ab	0220	39K	"
113ab	0252	820K	"
114ab	0174	470	"
115ab	0204	8.2K	"
116ab	0242	330K	"
117ab	0254	1M	"
118ab	"	"	"
119ab	"	"	"
120ab	"	"	"
121ab	0202	6.8K	"
122ab	"	"	"
123ab	0208	12K	"
124ab	0216	27K	"
125	RS0066	100	1/4W
126	RB0220	39K	R-25
127ab	0234	150K	"
C101ab	CE0173	3.3μF	25V LR E
102	0079	220μF	16V E
103ab	CC0008	150pFK	C
104ab	CC0038	5pF	C
105ab	CE2030	10μF	16V LL E
106ab	CQ0130	0.001μF	My
107ab	"	"	"
108ab	CQ0122	0.0068μF	"
109ab	CE0189	0.47μF	50V LR E
110ab	CQ0121	0.12μF	My
111ab	CQ0330	0.0033μF	My

SYMBOL NO.	STOCK NO.	DESCRIPTION	
112ab	CC0011	470pF	C
113ab	CQ0031	0.033μF	My
114ab	CE0810	47μF	10V ML E
115	CE0858	100μF	50V ML E
116	CK0145	0.022μF	C
117	CK0159	0.1μF	C
118	"	"	C
119ab	CC0005	33pF	C
add.	CE0817	10μF	16V ML E
SW101~			
111	SP0106	11-key push sw.	
Q101ab	TRO091	2SA836(TO-92) E	
102ab	TRO174	2SC1345(TO-92)E	

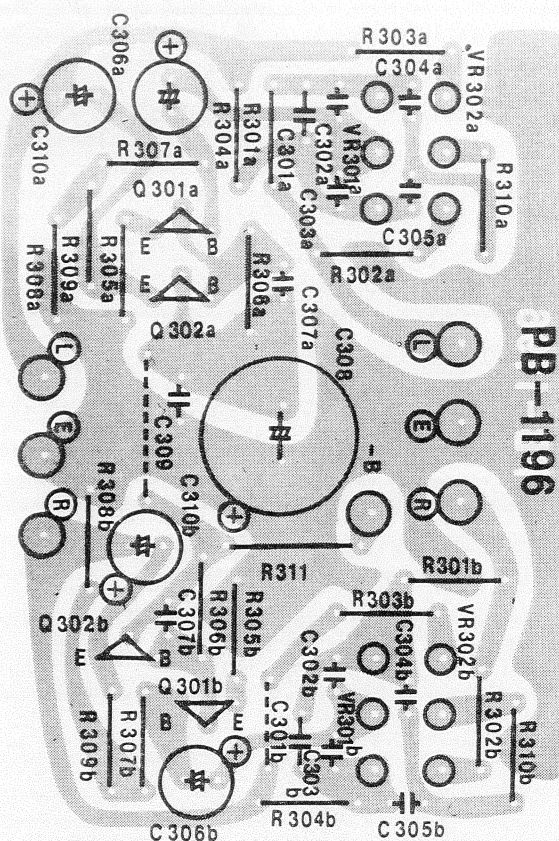
RB1195C

SYMBOL NO.	STOCK NO.	DESCRIPTION
R201	RB0218	33K R-25
202ab	0246	470K "
203ab	RD0004	1M 1/4W
204ab	RB0190	2.2K R-25
205	RD0022	47K 1/4W
206ab	RB0182	1K R-25
207ab	RB0214	22K "
208ab	RB0198	4.7K "
209ab	RB0242	330K "
210	RS0080	270 1/4W
C201	CE0821	100μF 16V E
202ab	CE0183	1μF 50V LR E
203ab	CC0037	5pF C
204ab	CE0173	3.3μF 25V LR E
205	CE0843	100μF 35V E
206	CK0145	0.022μF C
VR201	RV0205	250K-MN balance
VR202	RV0223	200KBx2 main VR
Q201ab	TR0091	2SA836 (T0-92)
202ab	TR0174	2SC1345 (T0-92)



PB-1196B

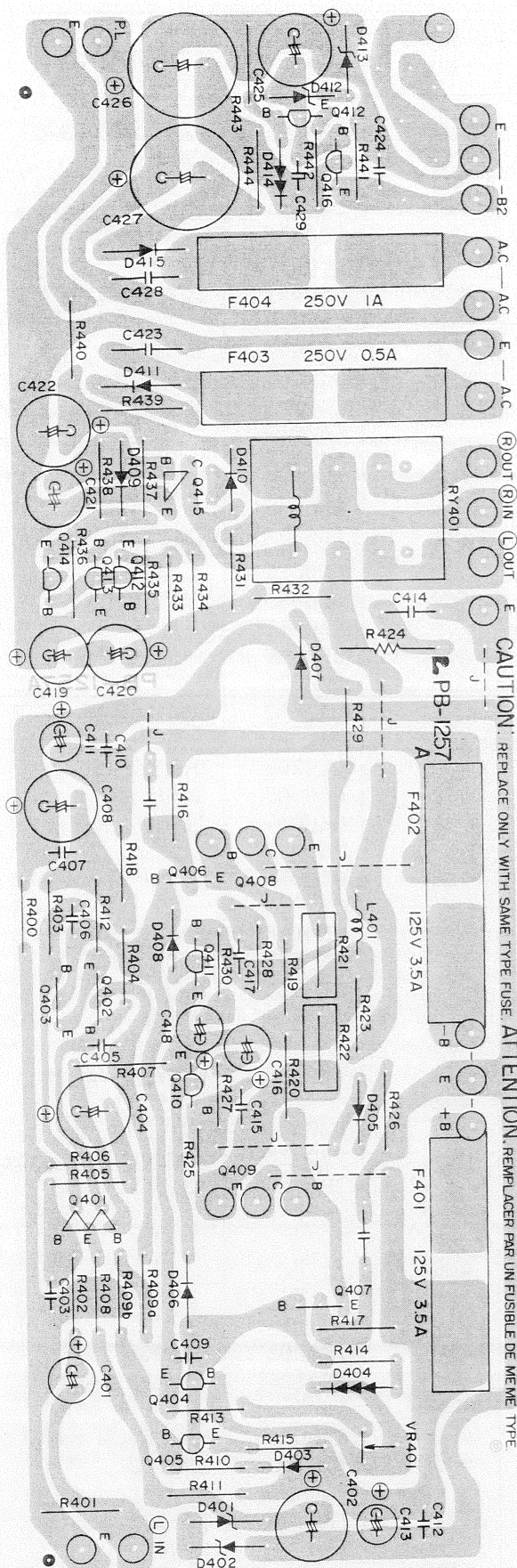
SYMBOL NO.	STOCK NO.	DESCRIPTION
R301ab	RB0212	18K R-25
302ab	RB0186	1.5K "
303ab	"	" "
R304ab	RB0212	18K R-25
305ab	0190	2.2K "
306ab	0216	27K "
307ab	0234	150K "
308ab	0182	1K "
309ab	0200	5.6K "
310ab	0188	1.8K "
311	RS0068	180 1/4W
C301ab	CQ0124	0.022μF My
302ab	CQ0130	1000pF "
303ab	"	" "
304ab	CQ0334	1800pF "
305ab	"	" "
306ab	CE0173	3.3μF 25V LR E
307ab	CC0012	10pF C
308	CE0844	220μF 35V E
309	CK0145	0.022μF C
VR301ab	RV0207	100KB
302ab	RV0206	50KB
Q301ab	TR0091	2SA836 (T0-92)



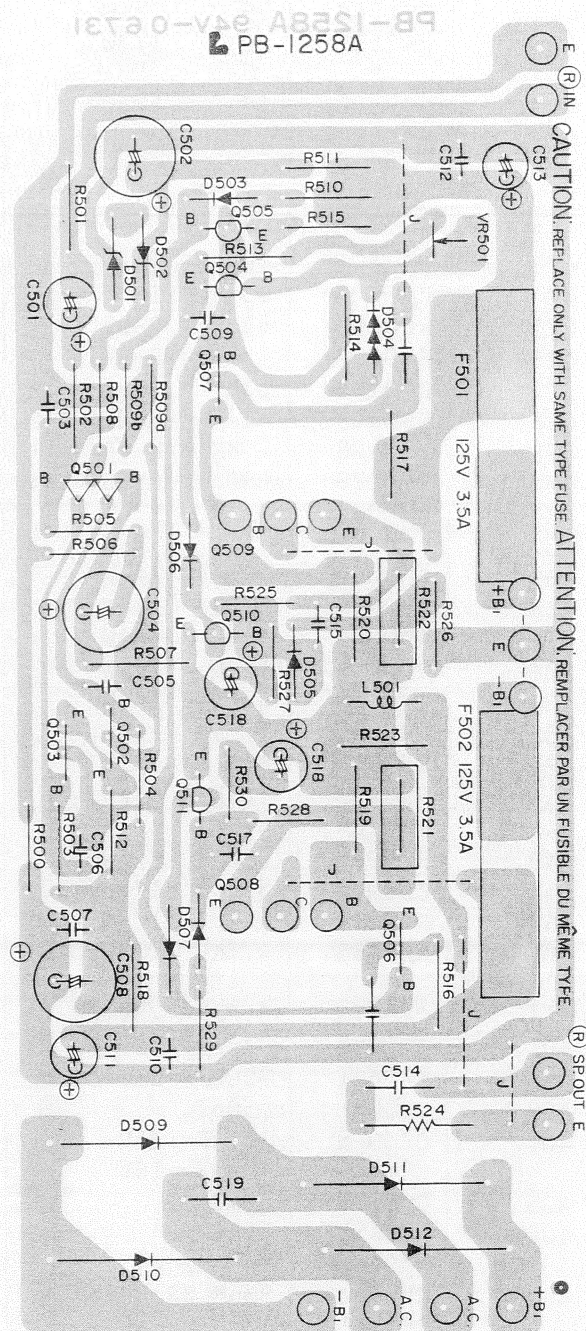
PB-1257

SYMBOL NO.	STOCK NO.	DESCRIPTION	
R401	RD0017	100K	1/4
402	RD0039	2.2K	1/4
403	RD0043	1K	"
404	"	"	"
405	RD0030	10K	"
406	RD0049	390	1/4
407	RD0030	10K	"
408	RD0028	15K	"
409ab	RD0036	3.9K	"
410	RS1048	39	1/4W
411	RS2525	1.2K	1/2W
412	RS1046	33	1/4W
413	RD0047	560	1/4W
414	RD0051	270	1/4W
415	RS1048	39	1/4W
416	RS2501	10	1/2W
417	"	"	"
418	RS2510	68	1/2W
419	RS2513	120	1/2W
420	"	"	"
421	RG3314	0.33	cement
422	"	"	"
423	RS2501	10	1/2W
424	RS2708	15	1W
425	RB0156	82	R-25
426	RD0128	1.8K	R-50
427	RB0178	680	R-25
428	RB0156	82	R-25
429	RD0128	1.8K	R-50
430	RB0178	680	R-25
431	RD0024	33K	1/4W
432	"	"	"
433	RD0030	10K	1/4W
434	RD0039	2.2K	1/4W
435	RD0033	6.8K	1/4W
436	RD0042	1.2K	1/4W
437	RD0035	4.7K	1/4W
438	RD0015	150K	1/4W
439	RS2501	10	1/2W
440	RS2526	1.5K	1/2W
441	RD0024	3.3K	1/4W
442	RS0079	120	1/4W
443	RD0021	56K	1/4
444	RS2512	100	1/2W
ADD.	RD0035	4.7K	1/4
C401	CE0173	3.3μF	25V LR E
402	CE0093	33μF	35V E
	CE0841	33μF	35V E
403	CC0071	150pF	C
404	CE0078	100μF	16V E
	CE0821	100μF	16V E
405	CC0157	15pF	C
406	CC0158	33pF	C
407	CK0146	0.04μF	C
408	CE0451	33μF BP	50V(U)E
	CE0961	33μF BP	50V(U)E
	CE0102	47μF	50V(E) E
	CE0857	47μF	50V(E) E

SYMBOL NO.	STOCK NO.	DESCRIPTION	
C408	CE0102	47μF	50V (S)E
409	CK0146	0.04μF	C
410	"	"	C
411	CE0317	2.2μF BP	50V E
	CE0956	"	" " E
412	CK0146	0.04μF	C
413	CE0317	2.2μF BP	50V E
	CE0956	"	" " " "
414	CQ0606	0.047μF	F
415	CQ0010	0.039μF	My
416	CE0076	33μF	16V E
	CE0819	"	" E
417	CQ0010	0.039μF	My
418	CE0076	33μF	16V E
	CE0819	"	" E
419	CE0069	100μF	10V E
	CE0811	"	" E
420	CE0069	"	" E
	CE0811	"	" E
421	CE0069	"	" E
	CE0811	"	" E
422	CE0145	100μF	25V E
	CE0832	"	" E
423	CK0203	0.01μF	C
424	CQ0007	0.068μF	My
425	CE0095	100μF	35V E
	CE0843	"	" "
426	CE1079	470μF	50V E
	CE0861	"	" E
427	CE0146	220μF	50V E
	CE0859	220μF	50V E
428	CK0203	0.01μF	C
429	CC0007	100pF	C
D401	TD0109	WZ-150	zener
402	"	"	"
403	TD0016	1S1555	
404	TV0020	STV-3H	varistor
405	TD0016	1S1555	
406	"	"	
407	"	"	
408	"	"	
409	"	"	
410	"	"	
411	TD0002	1N4002	
412	TD0124	WZ-172	zener
413	"	"	"
414	TV0030	KB-265C4	varistor
415	TD0002	1N4002	
Q401	TR0284	2SA979-13-G	
402	TR0196	2SD668	
403	"	"	
404	TR0146	2SC1740	
405	TR0197	2SB716	
406	TR0286	2SB649	
407	TR0279	2SD669	
408	TR0285	2SA1104	power



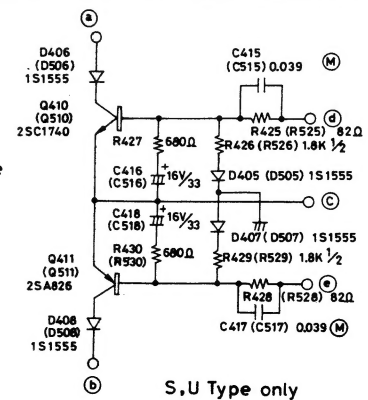
SYMBOL NO.	STOCK NO.	DESCRIPTION
Q409	TR0287	2SC2579 power
410	TR0146	2SC1740
411	TR0148	2SA826
412	TR0146	2SC1740
413	"	"
414	TR0148	2SA826
415	TR0259	2SC2120
415	TR0319	2SC1344
416	TR0197	2SB716
417	TR0146	2SC1740
RY401	AY0046	Relay GZ-12H
L401	LA1004	Choke 627



PB1258A

SYMBOL NO.	STOCK NO.	DESCRIPTION			
R501	RDO017	100K	1/4W		
502	RDO039	2.2K	1/4W		
503	RDO043	1K	1/4W		
504	"	"	"		
505	RDO030	10K	1/4W		
506	RDO049	390	"		
507	RDO030	10K	1/4W		
508	RDO028	15K	1/4W		
509ab	RDO036	3.9K	1/4W		
510	RS1048	39	1/4W		
511	RS2525	1.2K	1/4W		
512	RS1046	33	1/4W		
513	RDO047	560	1/4W		
514	RDO051	270	1/4W		
515	RS1048	39	1/4W		
516	RS2501	10	1/2W		
517	"	"	"		
518	RS2510	68	1/2W		
519	RS2513	120	1/2W		
520	"	"	"		
521	RG3314	0.33	cement		
522	"	"	"		
523	RS2501	10	1/2W		
524	RS2708	15	1W		
525	RB0156	82	R-25		
526	RD0128	1.8K	R-50		
527	RB0178	680	R-25		
528	RB0156	82	R-25		
529	RD0128	1.8K	R-50		
530	RB0178	680	R-25		
534	RD0039	2.2K	1/4W		
C501	CE0173	2.2μF	25V LR	E	
502	CE0841	33μF	35V	E	
503	CC0071	150pF		C	
504	CE0821	100μF	16V	E	
505	CC0157	15pF		C	
506	CC0158	33pF		C	
507	CK0146	0.04μF		C	
508	CE0961	33μF	50V BP	E	
509	CK0146	0.04μF		C	
510	"	"		"	
511	CE0956	2.2μF	50V BP	E	
512	CK0146	0.04μF		C	

SYMBOL NO.	STOCK NO.	DESCRIPTION			
513	CE0956	2.2μF	50V BP	E	
514	CQ0616	0.047μF		F	
515	CQ0010	0.039μF		My	
516	CE0819	33μF	16V	E	
517	CQ0010	0.039μF		My	
518	CE0819	33μF	16V	E	
519	CK0203	0.01μF		C	
D501	TD0109	WZ-150	zener		
502	"	"	"		
503	TD0016	1S1555			
504	TV0020	STV-3H	varistor		
505	TD0016	1S1555			
506	TD0016	1S1555			
507	"	"			
508	"	"			
509	TD0105	S3V20			
512	"	"			
Q501	TR284	2SA979-13-C			
502	TR0196	2SD668			
503	"	"			
504	TR0146	2SC1740			
505	TR0197	2SB716			
506	TR0286	2SB649			
507	TR0279	2SD669			
508	TR0285	2SA1104	power		
509	TR0287	2SC2579	power		
510	TR0146	2SC1740			
511	TR0148	2SA826			
L501	LA1004	Choke	627		
VR501	RT0015	1K-B	trimmer		
	AH0003	Fuse Holder	(E)(U)		
	AH0028	"	" (S)		
	BE1060	Heat Sink	1060		
F501	BF0080	Fuse	3.5A (U)		
	BF0120	"	3.5A (E)		
	BF0210	"	2A (T)(S)		
F502	BF0080	Fuse	3.5A (U)		
	BF0120	"	3.5A (E)		
	BF0210	"	2A (T)(S)		

**L-4**

L-4 SPECIFICATIONS

Power Output:	55 watts minimum continuous per channel both channels driven into 8-ohm loads at any frequency from 20Hz to 20,000Hz with no more than 0.02% total harmonic distortion.		
Rated I.M.:	no more than 0.02% (8 ohms, 55W/ch, 60Hz : 7 kHz = 4 : 1)		
Frequency Response:	10Hz — 100kHz (within —1dB)		
Input Sensitivity & Input Impedance:	PHONO	2.5mV	50k ohms
	TUNER	150mV	50k ohms
	AUX	150mV	50k ohms
	MONITOR-1	150mV	50k ohms
	MONITOR-2	150mV	50k ohms
	MAIN-IN	800mV	
Signal-to-Noise Ratio: (input short-circuited)	PHONO	better than 92dB (IHF-A weighted, 10mV)	
	TUNER	better than 95dB (IHF-A weighted)	
	AUX	better than 95dB (IHF-A weighted)	
	MONITOR-1	better than 95dB (IHF-A weighted)	
	MONITOR-2	better than 95dB (IHF-A weighted)	
	MAIN-IN	better than 100dB (IHF-A weighted)	
Residual Noise:	no more than 1mV		
Tone Control:	LUX NF type		
Filter:	High Cut	7kHz (—6dB/oct.)	
	Subsonic	25Hz (—6dB/oct.)	
Channel Separation:	PHONO	better than 70 dB	
	AUX	better than 80 dB	
Additional Features:	Tape Monitor (dual), Tape Dubbing, Loudness Control, Mode Selector, Speaker Switch, Extra AC Outlets (E-type, U-type only), DIN Connector (E-type, S-type only), signal processing Terminals. Time-Delay Muting, Speaker Protection by Sensing DC.		
Dimensions:	438(W) x 289(D) x 105(H) (17-1/4" x 11-3/8" x 4-1/8") (including Legs, Rear Protrusions and Knobs)		
Weight:	Net	9.5kgs (20.9 lbs.)	
	Gross	11.0kgs (24.2 lbs.)	

Specifications and appearance design subject to change without notice.